CONTENTS

Thermal stability of some 1,3,4-thiadiazoles with possible antimicrobial activity
S.R. Salman and N.F. Mahmoud (Baghdad, Iraq) . . . . . 1
Study of the $Ph_4SbBPh_4$ assumption for single ion free energies in some organic solvents
E.A. Gomaa (Mansoura, Egypt) . . . . . 7
Thermal studies on purine complexes. XV. Thermal behaviour of some new complexes of 8-ethylxanthine and 8-ethyl-3-methylxanthine
J.M. Salas (Granada, Spain), E. Sanchez and C. Valenzuela (Badajoz, Spain) . . . . . 13
Acid sites strength distribution in heteropoly acids by differential scanning calorimetry
A.K. Aboul-Gheit and A.-H. Summan (Makkah, Saudi Arabia) . . . . . 21
Scanning dilatometry and calorimetry of *p*-alkyl-*p'*-cyano-cyclohexyl-cyclohexanes
D. Grasso, S. Fasone, G. Di Pasquale and F. Castelli (Catania, Italy) . . . . . 31
Thermoanalytical investigation of $YBa_2Cu_3O_{7-y}$ superconductor. III. Preparation from mixed 2-ethylhexanoates of yttrium, barium and copper
A. Negishi, Y. Takahashi, R. Sakamoto, T. Ozawa and M. Kamimoto (Ibaraki, Japan) . . . . . 41
Use of the modified Wilson equation for description of vapor–liquid equilibrium in the system 1-nonyne–1-propanol
E. Siimer, M. Grintchak, M. Kuus and L. Kudryavtseva (Tallinn, U.S.S.R.) . . . . . 49
Thermodynamic parameters for the formation of calcium α-alaninate complexes in aqueous solution
A. Casale, A. de Robertis and C. de Stefano (Agata di Messina, Italy) and A. Gianguzza (Palermo, Italy) . . . . . 59
Non-isothermal, in situ XRD analysis of dolomite decomposition
P. Engler, M.W. Santana, M.L Mittleman and D. Balazs (Cleveland, Ohio, U.S.A.) . . . . . 67
Use of *F*-function in van der Waals-type two-constant cubic equation of state
P.C.N. Mak and J. Lielmezs (Vancouver, Canada) . . . . . 77
On relative stability reasoning for clusters of different dimensions: an illustration with the $C_{60}$–$C_{70}$ system
Z. Slanina (Prague, Czechoslovakia), J.M. Rudziński, M. Togasi and E. Ōsawa (Sapporo, Japan) . . . . . 87
Kinetic parameters of thermal decomposition of bis(2-OH-1-naphthaldoxime) chelates using Freeman–Carroll equation
R.S. Naidu, R. Ruby, E.N. Rao and K.G. Mallikarjun (Tirupati, India) . . . . . 97
Thermal diffusivity and thermal conductivity studies on europium, gadolinium and lanthanum pyrohafnates
M.V. Krishnaiah, P.S. Murti and C.K. Mathews (Kalpakkam, India) . . . . . 103
Thermodynamics of solutions of acetonitrile with 2-methyl-1-propanol
I. Nagata and K. Tamura (Ishikawa, Japan) . . . . . 109
Correlation of ternary liquid–liquid equilibrium data and prediction of quaternary liquid–liquid equilibrium data by means of the UNIQUAC model
I. Nagata and Y. Usui (Kanazawa, Japan) . . . . . 121
Wide range determination of thermal conductivity by differential scanning calorimetry
L.A. Torres-Gomez and R. Yañez-Nieto (Mexico) . . . . . 139
Thermal decomposition kinetics of zinc(II) bis(oxalato)-zincate(II) tetrahydrate
N. Deb, P.K. Gogoi and N.N. Dass (Assam, India) . . . . . 145
Crystallization kinetics of amorphous $Ge_{20}Se_5Te_{75}$
M.A. Mousa (Benha, Egypt) and M.A. Ahmed (Giza, Egypt) . . . . . 155
Calorimetric studies of benzoic acid–cyclodextrin inclusion complexes
E. Siimer and M. Kurvits (Tallin, U.S.S.R.) . . . . . 161
Structural characterization and thermal degradation of hexolic-anhydride-based polyesters
G. Sivasubramanian and P. Sivasamy (Sivakasi, India), C.T. Vijayakumar and J.K. Fink (Leoben, Austria) . . . . . 169
Thermal and structural studies on the adducts of bis(β-diketonate)oxovanadium(IV) complexes with organic bases
J. Martínez, A. Martínez and A. Doadrio López (Madrid, Spain) . . . . . 179
The non-isothermal devitrification of lithium metasilicate glass
A. Marotta, A. Aronne, P. Pernice and F. Branda (Naples, Italy) . . . . . 191

Thermodynamic and related studies of the oxidation of *p*-aminobenzoic acid, sulphanilic acid and anthranilic acid by periodate
V.K. Gupta, S. Pal, A. Kumar, R. Gupta and N. Jain (Roorkee, India) ..... 197
Cooperativity functions and site binding constants in polyprotic acids
A. Braibanti, F. Dallavalle and E. Fisicaro (Parma, Italy) ..... 203
Kinetics of sintering of irregular particles of glass.
Part I. Isothermal sintering
I.V. Swamy, A.N. Virkar, H.S. Ray and A. Paul (Kharagpur, India) ..... 219
Kinetics of sintering irregular particles of glass.
Part II. Non-isothermal sintering
I.V. Swamy, A.N. Virkar, H.S. Ray and A. Paul (Kharagpur, India) ..... 225
Thermal and electrical studies on some two-dimensional chelated compounds
A.M. Summan (Mekkah, Saudi Arabia), M.A. Mousa (Benha, Egypt), M.A. Ahmed (Cairo, Egypt) and A.M. Badawi (Taif, Saudi Arbia) ..... 229
CO adsorbed on Ni(001): effects of the interplay of "on-top" and "bridge" adsorption complexes on heat capacity
Z. Slanina (Vinohrady, Czechoslovakia) ..... 237
Thermal analysis of compounds adsorbed on low-surface-area solids. Part 1. Measurement and characterization by TGA
M.M. Thomas and J.A. Clouse (Houston, TX, U.S.A.) ..... 245
Thermal analysis of compounds adsorbed on low-surface-area solids. Part 2. Calorimetric investigations of fatty acids on calcite
M.M. Thomas and J.A. Clouse (Houston, TX, U.S.A.) ..... 253
Structural and thermal studies on mixed ligand coordination compounds of Pd(II), Rh(III) and Pt(II) with 3-(dimethyl-aminomethyl)indole and salicylaldoxime
S.K. Agarwal, G. Singh and R.K. Mittal (Sahibabad, India) ..... 265
Investigation of the complexation equilibria and thermodynamic parameters of biologically active *o*-vanillinsemicarbazone with lanthanon(III) ions
B.S. Garg and V.K. Jain (Delhi, India) ..... 271
Electrical properties of charge transfer complexes of diaminonaphthalene donors with dinitro- and trinitrobenzene acceptors
M.M.Y. Ayad, S.A. Amer and R.M. Issa (Tanta, Egypt) ..... 277
Vapor pressure of promethium trifluoride
J.K. Gibson and R.G. Haire (Oak Ridge, TN, U.S.A.) ..... 287
A study of the non-stoichiometry in $U_3O_8$
P. Srirama Murti, R.B. Yadav, H.P. Nawada, P.R. Vasudeva Rao and C.K. Mathews (Tamil Nadu, India) ..... 299
Thermodynamics of individual ions in various solvent systems from electromotive force measurements
M.M. Elsemongy (Shihar, Saudi Arabia) ..... 305
Thermal decomposition kinetics of polymeric complexes of nickel(II), zinc(II) and cadmium(II) with *N*,*N'*-bis(dithiocarboxy)piperazine
K.K. Aravindakshan and K. Muraleedharan (Kerala, India) ..... 325
Molten potassium pyrosulfate: reactions of seven metal sulfides
P.J. Mineely (Clayton, Vic., Australia) and S.A. Tariq (Bundoora, Vic., Australia) ..... 337
Thermal analysis of heterocyclic thione donor complexes. Part VI. Palladium(II) and platinum(II) complexes of thiazole-thiones
E.S. Raper, A.M. Britton and J.R. Creighton (Newcastle-upon-Tyne, U.K.) ..... 343
Isothermal vapour–liquid equilibria for binary and ternary mixtures formed by acetonitrile, 2-butanol and benzene
I. Nagata (Kanazawa, Japan) ..... 355

*Note*
Temperature and substituent effects on the ionization of some disubstituted arylazo barbituric and thiobarbituric acid compounds
M.S. Masoud (Alexandria, Egypt) and S.A. El-Enein (El-Menoufia, Egypt) ..... 365

*Corrigendum* ..... 371
*Author index* ..... 373
*Subject Index* ..... 375